

CLAIMS

1. A method for preparing an enzyme containing granule comprising an enzyme containing core and a shell coating the core, said method comprising:
 - 5 a) preparing an enzyme containing core; and
 - b) applying the shell to the enzyme containing core at least 1 day after preparing said enzyme containing core.
2. The method of claim 1, wherein said method comprises applying the shell to the enzyme containing core at least 7 days after preparing said enzyme containing core.
3. The method of claim 1, wherein said method comprises applying the shell to the enzyme containing core 1 to 7 days after preparing said enzyme containing core.
- 15 4. The method of claim 1, wherein said method comprises applying the shell to the enzyme containing core 1 to 52 weeks after preparing said enzyme containing core.
5. The method of claim 1, wherein said method comprises applying the shell to the enzyme containing core 1 to 5 years after preparing said enzyme containing core.
- 20 6. The method of claim 1, wherein said method comprises applying the shell to the enzyme containing core in a geographic location separate from the geographic location where the enzyme containing core was prepared.
- 25 7. The method of claim 1, wherein said method comprises applying the shell to the enzyme containing core in a country separate from the country where the enzyme containing core was prepared.
8. The method of claim 1, wherein the shell is substantially free of enzyme.
- 30 9. The method of claim 1, wherein the size of the enzyme core, in terms of its diameter in its longest dimension is no more than 1000 μm ; no more than 700 μm ; no more than 600 μm ; between 100 and 500 μm ; between 100 and 400 μm ; or between 200 and 300 μm .

10. The method of claim 1, wherein the size of the core unit, in terms of its relative mass compared to the overall mass of the granule is up to 30%; up to 20%; up to 15%; up to 10%; or up to 5%.

5 11. The method of claim 1, wherein the enzyme content in the core unit, calculated as pure enzyme protein, is in the range of from 20% to 100% by weight of the enzyme core unit; no less than 25%; no less than 30%; no less than 35%; no less than 40%; no less than 45%; no less than 50%; no less than; no less than 55%; no less than 60%; no less than 65%; no less than 70%; no less than 75%; no less than 80%; no less than 85%; no less than 90%; or no less than
10 95% by weight.

12. The method of claim 1, wherein the enzyme containing granule is a co-granule comprising more than one type of enzyme.

15 13. The method of claim 1, wherein the core is a multi-layered core or a clustered-particle core.

14. The method of claim 1, wherein prior to applying the shell, a film is applied to the core to protect the core from components present in the shell.

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15. The method of claim 1, wherein the enzyme core is prepared using a spray cooling process, a spray drying process, a melt granulation process, an emulsion granulation process or a high shear granulation process.

25 16. The method of claim 1, wherein the shell is applied to the enzyme core using a mechanical coating process and/or a fluid bed drying process.

17. The method of claim 1, wherein the enzyme core is stored and/or shipped to another geographic location prior to applying the shell.

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18. The method of claim 17, wherein a film is applied to the enzyme core prior to storage and/or shipping.

19. A method for preparing an enzyme containing granule comprising an enzyme containing core and a shell coating the core, said method comprising:

- a) preparing an enzyme containing core;
- b) storing the enzyme containing core for at least 1 day after preparing said enzyme containing core and before applying the shell to the enzyme containing core.

20. The method of claim 19, said method comprises storing the enzyme containing core for at least 7 days after preparing said enzyme containing core and before applying the shell to the enzyme containing core.

21. The method of claim 19, said method comprises storing the enzyme containing core for 1 to 7 days after preparing said enzyme containing core and before applying the shell to the enzyme containing core.

22. The method of claim 19, said method comprises storing the enzyme containing core for 1 to 52 weeks after preparing said enzyme containing core and before applying the shell to the enzyme containing core.

23. The method of claim 19, said method comprises storing the enzyme containing core for 1 to 5 years after preparing said enzyme containing core and before applying the shell to the enzyme containing core.

24. The method of claim 19, wherein said method comprises applying the shell to the enzyme containing core in a geographic location separate from where the geographic location where the enzyme containing core was prepared.

25. The method of claim 19, wherein said method comprises applying the shell to the enzyme containing core in a country separate from the country where the enzyme containing core was prepared.

26. The method of claim 1, wherein said method comprises applying the shell to the enzyme containing core and adjusting and customizing the granule for use in the intended market at least 1 day after preparing said enzyme containing core.

27. The method of claim 26, wherein the adjusting and customizing the granule comprises adjusting and customizing one or more of the following properties of the shell: enzyme activity, density, color, enzyme dust levels, odor, and mechanical and physical strength.

5 28. A method for preparing an enzyme containing granule comprising an enzyme containing core and a shell coating the core, said method comprising:

- a) preparing an enzyme containing core;
- b) shipping the core to a geographic location separate from where the geographic location where the enzyme containing core was prepared and applying the shell to the enzyme core; wherein the shell is applied to the enzyme containing core at least 1 day after preparing said enzyme containing core.

29. The method of claim 28, wherein said method comprises applying the shell to the enzyme containing core 1 to 7 days after preparing said enzyme containing core.

30. The method of claim 28, wherein said method comprises applying the shell to the enzyme containing core 1 to 52 weeks after preparing said enzyme containing core.

31. The method of claim 28, wherein said method comprises applying the shell to the enzyme containing core 1 to 5 years after preparing said enzyme containing core.

32. A method for preparing an enzyme containing granule comprising an enzyme containing core, said method comprising:

- a) preparing an enzyme containing core;
- b) finishing the preparation of the granule at least 1 day after preparing said enzyme containing core.

33. The method of claim 32, wherein said method comprises finishing the preparation of the granule at least 7 days after preparing said enzyme containing core.

34. The method of claim 32, wherein said method comprises finishing the preparation of the granule 1 to 7 days after preparing said enzyme containing core.

35. The method of claim 32, wherein said method comprises finishing the preparation of the granule 1 to 52 weeks after preparing said enzyme containing core.

36. The method of claim 32, wherein said method comprises finishing the preparation of
5 the granule 1 to 5 years after preparing said enzyme containing core.

37. The method of claim 32, wherein the finishing comprises applying the shell to the enzyme containing core.

10 38. The method of claim 32, wherein the finishing comprises adjusting and customizing the granule for use in the intended market.

39. The method of claim 32, wherein the adjusting and customizing the granule involves adjusting and customizing one or more of the following properties of the shell: enzyme activity,
15 density, color, enzyme dust levels, odor, and mechanical and physical strength.

40. The method of claim 32, wherein said method comprises finishing the preparation of the granule in a geographic location separate from the geographic location where the enzyme containing core was prepared.

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41. The method of claim 32, wherein said method comprises said method comprises finishing the preparation of the granule in a country separate from the country where the enzyme containing core was prepared.

25 42. A method for preparing an enzyme containing granule comprising an enzyme containing core, said method comprising:

a) preparing an enzyme containing core which may be stored for a period of at least up to five years; and

b) finishing the preparation of the granule 1 day to five years after preparing said enzyme
30 containing core.